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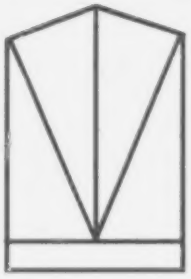
Shipbuilders
Council of
America

1987 IN REVIEW



CONTRACTS/ FINANCIAL REPORT

This publication is the fourth of a series of quarterly statistical reports to be issued by the Shipbuilders Council of America, which will analyze the following issues on an annual basis. The schedule set for these reports is as follows:

March:	Ship Construction
June:	Ship Repair
September:	Manpower and Labor Issues
December:	Contracts/Financial

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OVERVIEW

With this report on Contracts and Financial issues, the Shipbuilders Council of America concludes its review of 1987 activities. This report presents information on the financial impact of foreign subsidies, Navy contract financing policies and its impact on shipyards, and the extent to which current government indices are capturing the real costs of performing ship work in the American economy. If the reader is left with the impression that these are some of the most critical issues facing the shipbuilding and ship repair industry today, he or she would be right.

The U.S. shipbuilding industry is currently experiencing one of the most vulnerable periods of its financial existence. Part of this financial vulnerability has been created by the fact that the industry has no other market to pursue other than that of the U.S. Government. It is now well known that the 1981 decision to terminate merchant ship construction subsidies was essentially a declaration of unilateral economic disarmament in the wars that have characterized U.S. trade policy during the Reagan era. The termination of those subsidies not only exported shipbuilding to Europe, Japan, and South Korea, but, even more troubling, it has led to the collapse of commercial shipbuilding in the United States.

This collapse of commercial shipbuilding has left the industry in a position where its only customer is the U.S. Government, principally the U.S. Navy. In economic theory, this reliance on a single customer is known as a monopsony. Monopsonies are as unstable in the buyer context as monopolies are in the supplier context. Monopsonies can and usually do distort pricing strategies, market structure, and product definition.

This degression into Economics 101 is done to prove a point. The U.S. Navy is now a monopsonist economic unit. It can and has distorted rational market behavior as firms have responded to the pressures exerted on them by the dominant customer. For example, firms have accepted the use of fixed-price contracts on lead ships of a new class when, in a normal market, firms would not set prices until risks are fully known. This is also true in the use of fixed-price contracts in the ship repair arena where the existence of unknowables is the crux of the repair job. The existence of a monopsonist actor also means that normal payment terms are ignored. Contract financing actions that reduce the rate of progress payments or the failure of contracting officers to pay outstanding bills in a timely fashion reflects a critical lack of understanding of the relevance of cash flow in a financially vulnerable industry. We still have too many examples of the Navy's use of its awesome power to issue changes, to have the yard incur costs to perform that change, and then to refuse to negotiate a reasonable settlement. Under these circumstances, companies are forced either to agree to uneconomic change order settlements (which can only lead to financial disaster), to litigate with all of its attendant costs and problems, or to file for bankruptcy.

The result is an increasing tendency for America's biggest corporations to "pull the plug" on its shipyard division. This leaves shipyards on the brink of financial risk either through acquisition of the yard by thinly financed outside entities or through employee buyouts of the previous owners. These corporations have sent a clear signal to the U.S. Government that they will no longer finance the government's shipbuilding program without an adequate return on investment.

Does the industry seek unfettered contractual behavior? Absolutely not. However, there should be understanding of the critical nature of cash flow. Thus, the Council seeks to achieve the following:

a. Improve the rate of progress payments.
b. Improve the flexibility of government escalation indices so that they properly reflect changing external economic conditions.
c. Discipline the change order process and accelerate outstanding payments.
d. Terminate the use of fixed price contracts on lead ships.

It should be remembered that profits are keys to the downstream improvements in shipyard capability. In an atmosphere where profits are impugned (see the discussion included herein on the Navy's own study on this subject), the ability of shipyards to survive into the future, as financially secure industrial operations, is open to question.

John J. Stocker
President

FOREIGN SUBSIDY PRACTICES

The Shipbuilders Council of America conducted a study of foreign subsidy practices to determine if there is a correlation between active government support and the ability of shipbuilders to be competitive in the international marketplace.

Begun in August, the study, entitled "Shipbuilding Aid in the World's Leading Ship-Producing Nations," utilized statistics for ships on order as of June 30, 1988, as published in Fairplay's "World Orderbook Statistics," July 21, 1988. To enhance the study's meaningfulness, the Council limited the study to the top-ten ship-producing nations of the "free world." (The original top-ten list, regardless of economic orientation, included five communist countries.)

TOTAL ORDERS BY SHIP TYPE FOR COUNTRY OF BUILD, APRIL-JUNE 1988

	Type of Ship						
Country	Dry Cargo	Container	Tanker	Bulker	Ro-Ro	Total	DWT
1. Japan	32	11	67	51	4	165	9,932,956
2. S. Korea	12	13	73	33	4	135	12,536,780
3. W. Germany	14	20	5	-	4	43	879,765
4. Brazil*	2	2	21	5	5	35	1,345,250
5. Spain	14	-	16	1	1	32	1,196,570
6. Denmark	8	8	9	-	1	26	733,630
7. Netherlands	8	-	12	-	3	23	74,975
8. Finland*	11	-	10	-	1	22	84,100
9. Italy*	6	8	8	4	4	30	1,033,510
10. Taiwan	-	8	2	6	-	16	1,502,800

* No new contracts during the quarter

The study found that all of the free world's top-ten ship-producing countries have provided direct or indirect subsidy programs to benefit their respective shipbuilding industries. An example of a direct subsidy is West Germany's ship construction grants based on contract price percentages. An example of an indirect subsidy is Japan's low-cost, long-term loans for ship purchases financed by a combination of government monies and private bank funds.

Primary sources utilized to quantify the foreign subsidy practices described in the study were "Maritime Subsidies," prepared by the Maritime Administration's Office of International Activities and published in June 1988; and "Measures of Assistance to Shipbuilding, 1987," published by the Organization for Economic Cooperation and Development (OECD).

The data contained within the study provide a concrete foundation to the Council's claim that the shipbuilding subsidization policies of foreign governments in the world's leading ship-producing centers have effectively forced the unsubsidized shipyards of the U.S. out of the international market. In 1981, when governments in Europe and the Far East were providing their shipyards with direct and indirect subsidies of 10% to over 60%, the U.S. moved to discontinue funding of all shipbuilding aid, putting U.S. yards at a competitive disadvantage in the international marketplace. As a result, no commercial ship of 1,000 gross registered tons or larger has been ordered from an American yard since 1984.

The table below summarizes the major kinds of shipbuilding aid provided in the free-world's top ten ship-producing nations. For comparison purposes, the United States is also listed. Following the table are brief descriptions of specific subsidy practices among the top-ten countries.

SUMMARY OF SHIPBUILDING-RELATED AID AVAILABLE
IN THE TOP-TEN SHIP-PRODUCING NATIONS AS COMPARED WITH THE U.S.

Country	Shipowner Favorable Financing	Ship-Building Subsidies	Yard Reorg. Aid; Ship Scrapping	Ship R&D Funding	Tax Benefits	Import Duties Exempt
1. Japan	Yes ***	Unknown	Yes **	Yes *	Yes	Yes
2. S. Korea	Yes	Yes Unspecified	Unknown	No	Limited	Yes
3. West Germany	Yes	Yes ***	Yes-reorg. Fed/State	Yes	Yes	Yes
4. Brazil	Yes ***	Not Govt.	No	No	Unknown	Yes
5. Spain	Yes	Yes ***	Limited	No	Unknown	Yes
6. Denmark	Yes **	Yes	No	Yes	Limited	Yes
7. Nether-Lands	N/A	Yes *	No	Yes	Limited	Unknown
8. Italy	Yes **	Yes **	Yes	Yes	Yes	Yes
9. Finland	Yes	No	No	Unknown	Yes	Yes
10. Taiwan	Yes	Yes Unspecified	Unknown	No	Yes	Yes
United States	No	No	No	Limited	Limited	Limited

*** of primary importance ** very important * important

Favorable Financing

Loans offered by public and private banks for a substantial portion of a ship's cost, repayable over an extended period at low interest rates, are favored by Japan, Brazil, and Denmark. Finland provides interest subsidy loans to Finnish shipowners as needed.

Japan in particular utilizes low-cost financing to support its shipbuilding industry. In FY 1987, approximately $582.5 million was budgeted for ship production loans, with $518.5 million provided through the Japan Development Bank (JDB) for highly modernized ships, covering up to 60% of ship's cost and repayable at 5% interest over ten years after a three-year grace period. The remaining 20-40% was financed by private banks at the prime rate (5.5%). Export ship financing totalling $64 million was provided through the Japan Export-Import Bank at the 8% OECD-dictated rate.

Subsidy Grants

Within the European Community (EC), shipbuilding subsidies are intended to close the gap between EC shipbuilding prices and those of yards outside the EC (primarily Far East yards). The EC's Sixth Directive, effective since January 1, 1987, sets a subsidy ceiling of 28 % of the contract price of a new ship, if the contract price is over $6 million, and a 20 % ceiling for a new build with a lower contract value. This policy, subject to annual revisions, is in force until 1991.

West Germany, Spain, and the Netherlands provide direct construction subsidies to shipyards for a percentage of the contract price. Although in theory Germany limits its subsidies to 20% of the ship contract price, in practice these grants have reached 28% and above. Germany's 1988-1991 budget for shipyard subsidy grants is DM 700 million (approximately $372 million), funded two-thirds by the federal government and one-third from state governments. Toward the end of 1987, Spain had reduced its shipyard subsidies to the EC's 28 percent maximum. The Netherlands created a new subsidy grant program funded at approximately $98 million for 1987 through 1989, replacing a program of decreasing subsidies that ended Jan. 1, 1987. Individual grant subsidies under the new program range from 3% to 14%.

Loans and Subsidy Grants

Italy provides long-term loans and interest subsidies to ship buyers (about $97.4 million in 1986) as well as direct subsidy grants to shipyards (25%, 15%, and 11% depending on shipyard size in 1984-1986. Budget: about $500 million). Details of Italy's latest program were not available, although the country has said the new program will be within the guidelines of the EC's Sixth Directive. South Korea has also utilized favorable loans to ship buyers, and the Korean government has alluded to subsidization of shipyards, although details of the shipyard subsidies were not specified in the source materials used for this report. Even less information was available on Taiwan, which has provided public financing for the four-year program of the Ministry of Communications for 32 ships and has granted an unspecified amount of construction subsidies for ships ordered from and registered in Taiwan.

Government Guarantees

Denmark provides loan guarantees for ships ordered by Danish operators and for the construction or conversion of small freighters. Finland's guarantees cover losses caused by cost escalation during construction of export ships. In Germany, the coastal states may grant credit guarantees for ships built within their boundaries. Japan provides guarantees for debt payments related to the reduction of shipyard facilities (approximately $370.4 million in FY 1987).

Shipyard Reorganization and Ship Scrapping Aid

The government of Japan established a five-year shipyard rationalization program in April 1987 which provided for government purchases of redundant docks and land (FY 1987 funding: $222.2 million) and for debt guarantees associated with operational adjustments and retirement payments stemming from shipyard reductions (FY 1987 funding: $370.4 million). Tax benefits are also provided. Italy, which reorganized 90% of its shipyards into the publicly-owned FINCANTIERI between 1984-1986 and provided $36 million in aid, currently provides funding to

shipyards equal to 20%-30% of the investment costs for reorganization or conversion. Currently, West Germany provides shipyard modernization and conversion funding through the coastal states. Japan, Italy, and Spain have government assistance programs for ship scrapping.

Ship R&D Funding

In Japan, annual research funding is provided through the Ship Research Institute attached to the Ministry of Transport (MOT). In August 1988, it was reported that the MOT was ready to finance the prototype of a high speed ocean cargo vessel, which will cost approximately $44 million. The most recent figure available concerning shipbuilding R&D funding from the government of Germany was approximately $16.2 million for 1986. In Italy, the government's shipbuilding and ship propulsion R&D contribution in 1986 was approximately $25.6 million. Denmark's ship research support amounts to about $.5 million annually. Ship research in The Netherlands is funded on a 50:50 basis by the government and the maritime industry.

Tax Benefits

In nine of the top-ten ship-producing countries, shipbuilders have been exempted from customs duties for materials used in ship construction. Other tax reductions and exemptions for investing in ships vary from country to country. For shipowners, a major tax write-off is linked to depreciation, including special depreciation in addition to regular depreciation and advance depreciation before the ship is delivered. Another benefit allowed in seven of the ten countries is tax-free reserves for book profits on ships sold (or a substantial portion thereof).

Since the SCA study was completed, statistics for third-quarter ships on order have appeared in Fairplay (Oct. 20, 1988). Data for the top ten "free world" countries as of Sept. 30, 1988, follows. Little information was available concerning Turkey, which displaces Taiwan as the 10th-place ship-producing nation. MARAD's "Maritime Subsidies" notes that only three Turkish yards, all state-owned, can build large oceangoing vessels.

TOTAL ORDERS BY SHIP TYPE FOR COUNTRY OF BUILD, JULY-SEPT. 1988

	Type of Ship					
Country	Dry Cargo	Container	Tanker	Bulker	Ro-Ro	Total	DWT
1. Japan	40	14	74	60	4	192	10,676,174
2. S. Korea	12	13	67	34	2	128	11,912,026
3. W. Germany	15	18	11	-	4	48	867,783
4. Spain	17	-	22	1	1	41	1,514,998
5. Brazil	-	2	2	9	3	35	1,543,325
6. Italy	7	8	9	4	3	31	1,035,310
7-8. Denmark	14	8	8	-	-	30	737,230
7-8 Netherlands	14	-	13	-	3	30	141,423
9. Finland	9	-	10	-	-	19	68,950
10. Turkey	13	-	-	5	-	18	310,625

MATERIAL PRICES INCREASING FASTER THAN INDEX

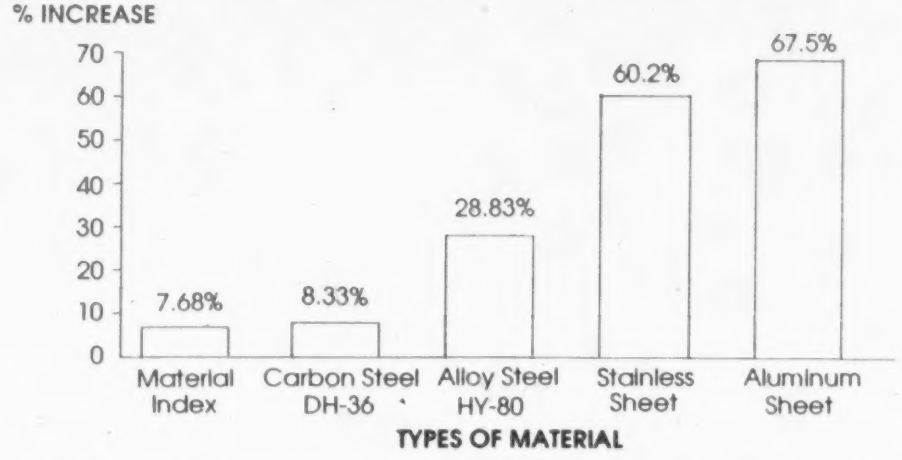
The Material Index of NAVSEA Steel Vessel Contracts is produced by the Bureau of Labor Statistics (BLS). It is a weighted average of a selection of products from the BLS Producer Price Indices. The elements used by the BLS to compute the Material Index are:

Iron and Steel - Index 10-1	45%
General Purpose Machinery and Equipment - Index 11-4	40%
Electrical Machinery and Equipment - Index 11-7	15%

Until January 1988, the Material Index used 1967 as the base year equalling 100. As of January 1988, the index was revised to a base year of 1982. Using either base, the index has risen less than eight percent over the past 12 months.

The Shipbuilders Council is concerned that the index is lagging the true costs of material. Over the past year, Electrical Machinery and Equipment has moved upward less than one percentage point while General Purpose Machinery and Equipment has increased 4.9 percent. Only within the Iron and Steel index itself (10-1) has the increase of 7.68 percent even begun to approach some of the increases experienced by shipbuilders and their suppliers. Of particular concern are the very large increases experienced in both stainless and aluminum sheet. Stainless sheet is included in the index as a part of index 10-1 but aluminum sheet is in a non-ferrous metals index and is not a part of the Material Index.

PRICE INCREASE OF CERTAIN MATERIALS VS. CHANGE IN THE MATERIAL INDEX (SEPTEMBER 1987 - SEPTEMBER 1988)



BURDEN OF RISK: CONTRACT TYPE

One of the major, if not the primary, changes in the Department of Defense acquisition strategy over the last seven years is the increased reliance on the competitive process in the award of contracts. For example, in its December 1986 report to the Secretary of the Navy, the Office of the Competition Advocate General stated that 83.1 percent of Navy new construction dollars and 94.7 percent of new construction ships placed under contract were awarded competitively in fiscal year 1986. This competition, in turn, generated substantial savings to the taxpayer, according to the Navy. Indeed, savings from shipbuilding were calculated at $958 million.

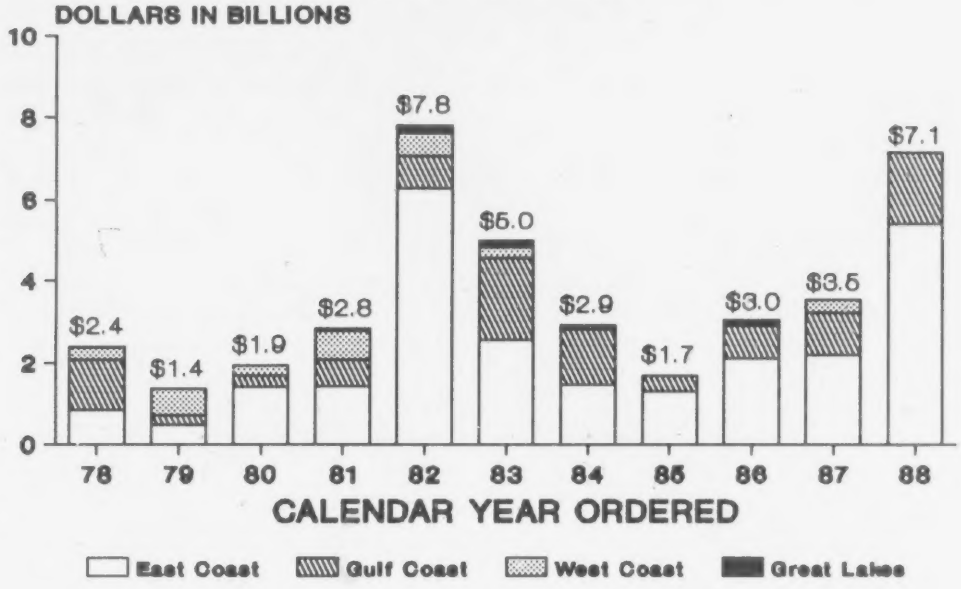
The contract type utilized to achieve, in part, these savings was a fixed-price incentive fee contract. Under this type of contract there is a target cost, target profit, target price, ceiling price, and shareline up to the ceiling price. Recently, the shareline has been divided equally between the government and the shipbuilder. When one is dealing with a mature procurement, such a contract type would appear to be appropriate because the problems with performance of the contract should have been identified and corrective actions undertaken to solve them. Once a program is mature, any deficiencies regarding the specifications for the vessel should have been ironed out, the labor force will have learned, through repetition, the steps in the process, and timely delivery schedules will have been established for materials.

On the other hand, to use a fixed-price type of contract for a new class lead ship is a disaster waiting to happen. This is especially so with new combatant vessels because of their extreme complexity and sophistication. Phrased another way, the performance risks involved in implementing the contract are not totally known to either the shipbuilder or the Navy. An added burden, which is unique to shipbuilding, is the reality that the Navy is the industry's only customer for the construction of vessels. Thus, competition is very intense for the limited number of new construction contracts, and in the winner-take-all acquisition strategies of the recent past, the escalation of risk in managing Navy contracts is added to the normal unknowns of a new ship.

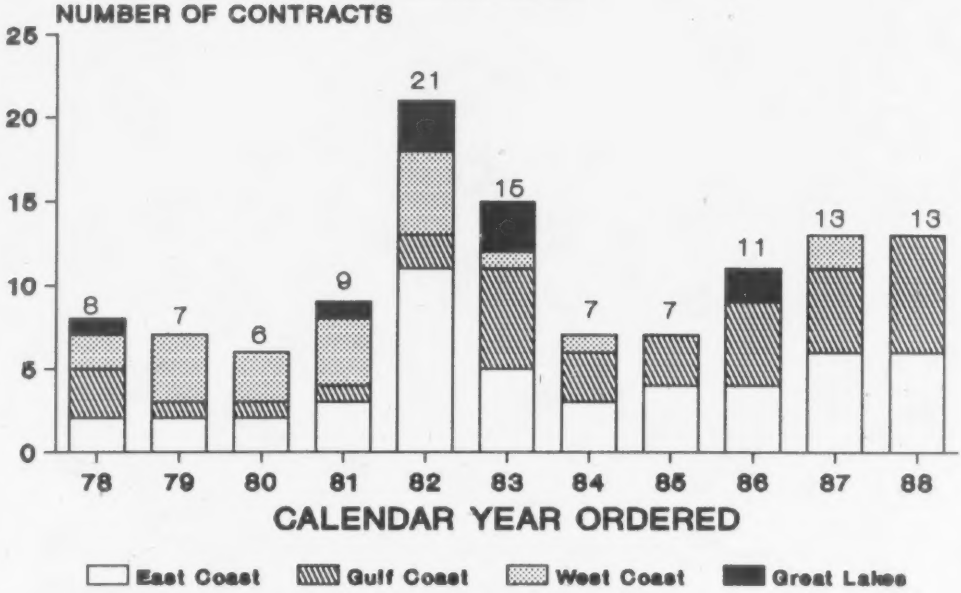
Interestingly, both the Congress and the Department of Defense understand this problem in the area of large-scale research and development contracts. Here, the Under Secretary of Defense for Acquisition Robert B. Costello has declared, "I do not believe that a policy of placing increased cost risk on our contractors through widespread use of fixed-price contracts for development programs is wise." In fact, he went so far as to label such a policy "simply unfair."The Congress has enacted legislation which requires the Under Secretary of Defense for Acquisition to make a written program risk determination before awarding a fixed-price development contract valued at more than $10 million, and to submit quarterly reports to the House and Senate Appropriations Committees on obligations undertaken on such a contract. Also, the Congress expressly prohibited the Under Secretary from delegating this authority to any person who holds a position in the Office of the Secretary of Defense below the level of Assistant Secretary of Defense. This indicates the serious concerns of the Congress in this area.

The Shipbuilders Council would argue that the same general provision should be applied to large-scale production contracts. The arguments are the same, namely, the magnitude of the unknown risk on the shipbuilder in constructing the lead ship or the first few ships in a new vessel class is too great and it is unwise policy to impose such a risk.

DISTRIBUTION OF NEW NAVAL VESSEL CONTRACTS BY DOLLAR VALUE



DISTRIBUTION OF NEW NAVAL VESSEL CONTRACTS BY NUMBER



Note: 1988 total Includes orders placed from January 1 - October 31, 1988

FY 1988 NAVY SHIP REPAIR ORDERS

EAST/GULF COAST

	ROH	SRA	PMA	ERP	Total	Contract Value
Baltimore, MD	-	1	-	-	1	$3,305,013
Bath, ME	1	-	-	-	1	11,971,980
Boston, MA	-	1	1	-	2	7,487,452
Charleston, SC	1	7	-	-	8	7,219,801
Earle, NJ	-	1	-	-	1	4,997,368
Mayport, FL	-	7	-	-	7	31,421,586
Mobile, AL	-	1	1	-	2	957,922
New Orleans, LA	2	-	-	-	2	39,594,580
Norfolk, VA	3	16	20	-	39	62,369,637
Newport News, VA	-	1	-	1	2	18,272,200
Pascagoula, MS	1	-	-	-	1	28,780,930
Pensacola, FL	-	3	-	-	3	2,393,851
Philadelphia,PA	-	1	-	-	1	3,805,219
Rhode Island	-	1	-	-	1	2,847,622
Totals	8	40	22	1	71	$225,425,161

WEST COAST

Honolulu, HI	-	6	-	-	6	$8,574,516
Long Beach, CA	1	4	3	-	8	22,863,681
Portland, OR	1	-	-	-	1	14,091,106
San Diego, CA	2	21	5	-	28	108,367,677
San Francisco, CA	-	4	4	-	8	18,270,224
Seattle, WA	-	2	1	-	3	3,752,014
Totals	4	37	13	0	54	$175,918,647

FY 1987 NAVY SHIP REPAIR ORDERS

EAST/GULF COAST

	ROH	SRA	PMA	Total	Contract Value
Baltimore, MD	-	1	-	1	$3,458,000
Bath, ME	1	-	-	1	14,501,000
Boston, MA	1	1	1	3	19,771,000
Charleston, SC	3	15	-	18	20,507,000
Groton, CT	-	2	-	2	18,600,000
Mayport, FL	1	13	-	14	57,105,000
Mobile, AL	-	-	1	1	-
New Orleans, LA	-	2	-	2	21,170,000
New York/New Jersey	-	4	-	4	14,770,000
Norfolk, VA	3	16	13	32	36,814,000
Philadelphia, PA	-	1	-	1	3,421,000
Totals	9	55	15	79	$210,117,000

WEST COAST

Honolulu, HI	1	1	-	2	$5,932,000
Long Beach, CA	-	7	2	9	27,126,000
San Diego, CA	4	31	5	40	192,015,000
San Francisco, CA	3	3	1	7	88,569,000
Seattle, WA	1	1	-	2	27,595,000
Totals	9	43	8	60	$341,237,000

PROGRESS PAYMENTS: KEY INGREDIENT TO SHIPYARD CASH FLOW

Navy shipbuilders have historically been compensated through payment for progress based on the percent of physical completion of the vessel. In contrast, the normal practice in other defense procurement is to pay for progress based on cost incurred under the contract. The Navy practice developed because of the prevailing commercial shipbuilding practice to pay on the basis of earned progress or percent of physical completion. The chart on page 11 sets forth the evolution of the Navy's shipbuilding progress payment clause.

The rate of progress payments is vital to the defense industry in general and to the shipbuilding industry in particular. The purpose of progress payments in government contracts is to provide the defense contractor working capital and to help defray interest expenses which are unallowable costs under defense contracts. Progress payments become even more important to those firms in the shipbuilding industry who are engaged in newbuildings because of the long time period (approximate average is 3-1/2 years) to complete a Navy contract from award to delivery of the vessel. Further, no profit is usually realized by the shipbuilder until the contract is 50 percent complete - a time period which often exceeds that of an entire weapons system contract, according to the accounting firm of Coopers & Lybrand.

The rate of progress payments is also very important to those firms in the industry who are engaged in the repair of naval vessels. Here, one is dealing with an economically fragile industry where cash flow is vital. Indeed, the repair sector was forced to seek a legislative remedy to its problem. Presently, the law requires the Secretary of the Navy to provide a floor on the rate of progress payments on contracts for the repair, maintenance and overhaul of non nuclear vessels for work to be performed in one year or less. The rate is not less than 90 percent for small business and 85 percent for other firms.

There are at least two moves afoot to reduce the rate of progress payments. First, the pressure on the Department of Defense to reduce outlays in these times of budgetary restraint caused by the massive federal deficit. This pressure is both internal and external to the department. The external forces are evidenced by the automatic sequestration provision of the Gramm/Rudman/Hollings Act. Second, the possible use of progress payments as a means to discipline a defense contractor who may have committed a transgression. The driving force here is the ill-informed Washington conventional wisdom that all defense contractors have been guilty in varying degrees of fraud, waste, and abuse under their government contracts.

The Shipbuilders Council would argue that these courses of action are bad public policy. The first places an undue and unwarranted financial burden on an already economically depressed industry, and the second ignores remedies in existing law and the Federal Acquisition Regulations that govern contractor misconduct.

SUMMARY OF EVOLUTION OF NAVY SHIPBUILDING PROGRESS PAYMENT PROVISIONS

	UP TO 50% PHYSICAL PROGRESS		FROM 50% PHYSICAL PROGRESS TO COMPLETION	
	PAYMENT BASED ON:		PAYMENT BASED ON:	
	% Earned Value*	Cost Limitation	%Earned Value	Cost Limitation
Prior to 1951	100%	None	100%	None
1951 to 1954	100%	105%	100%	105%
1954 through the 1960s	90%	105%	90%	105%
1960 to 1975	90%	105%	100% less 5% of contract price	105%
1975 to 1981	90%	100%	100% less 5% of contract price	105%

	UP TO 25% PHYSICAL PROGRESS		FROM 25% UP TO 50% PHYSICAL PROGRESS		PHYSICAL PROGRESS GREATER THAN 50%		FROM 75% PHYSICAL PROGRESS TO COMPLETION
	% Earned Value	Cost Limitation	% Earned Value	Cost Limitation	% Earned Value	Cost Limitation	The Greater of:
1981 to 1985	90%	100%	100% less 2.5% of Contract Price	105%	100% less 2.5% of Contract Price	107%	(100% earned value less 2.5% of contract price) or 100% earned value less retentions at completion

	UP TO 50% PHYSICAL PROGRESS		FROM 50% PHYSICAL PROGRESS TO COMPLETION	
	PAYMENT BASED ON:		PAYMENT BASED ON:	
	% Earned Value	Cost Limitation	% Earned Value	Cost Limitation
1985 to 12 Dec 1986	90%	100%	100% less 5% of the contract price	105%
12 Dec 1986 to Present	85%	100%	95% less 5% of the contract price	105%

* Earned Value is equal to the percent of physical progress multiplied by the contract or billing price.
Source: Coopers & Lybrand, "Contract Financing", December 1987

SHIPBUILDING CONTRACT STUDY

In 1987, the Navy hired the accounting firm of Coopers & Lybrand to perform an in-depth analysis of the service's policies for financing ship construction contracts. The 121-page report, excluding appendices, which was transmitted in draft form to Assistant Secretary of the Navy (Shipbuilding and Logistics) Everett Pyatt in December 1987, makes 11 findings, including:

1. Differences in benefit-cost ratios between shipbuilding and weapons contracts in the sample indicate that shipbuilding payment terms are less favorable than those used in weapon systems contracts.

2. Virtually nothing in the public sector compares on a one-to-one basis to a Navy shipbuiding contract. A limited number of undertakings of comparable size, duration, and complexity exist in the private sector, and these generally provide more favorable benefit-cost ratios to their contractors.

3. Changes in progress payment rates have greater impact than the float time, or time between the contractor's cash outflow and receipt of cash payment.

4. Shipbuilding progress payment terms were adjusted to respond to changes in the prime rate in 1981 and 1985. Prior to 1981, there was no apparent relationship between payment terms and interest rates. Over the long term, progress payment rates have become less favorable for contractors.

5. The new Department of Defense profit policy will have little effect on new contracts since most are awarded competitively.

6. New investment by shipbuilders has generally declined from the mid-1970s to the present. However, existing investment in the industry remains at a very high level relative to other DoD contractors.

7. The trend in shipbuilders' profits is downward. After nearly a decade of low profits or losses, the industry saw increasing profits from 1979 to 1984. That upward trend has been reversed since 1984. Shipbuilders have generally earned a smaller return on assets than other defense contractors.

The accounting firm stated that the outlook for the shipbuilding industry is "not uniformly unfavorable." The industry has two tiers: one tier is composed of large firms engaged in long-term production contracts for the Navy. The second tier consists of smaller producers, who are financially weaker and largely dependent on highly competitive Navy contracts. The outlook for the larger firms is "steady, though unexciting." The outlook for the smaller firms is "not good."

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Jacksonville Shipyards, Inc.
Jacksonville, FL

The Jonathan Corporation
Norfolk, VA

Marinette Marine Corporation
Marinette, WI

McDermott Corporation
New Orleans, LA

Metro Machine Corporation
Norfolk, VA

National Steel &
Shipbuilding Company
San Diego, CA

Newport News Shipbuilding
Newport News, VA

Norfolk Shipbuilding &
Drydock Corporation
Norfolk, VA

Northwest Marine Iron Works
Portland, OR

Peterson Builders, Inc.
Sturgeon Bay, WI

Robert E. Derecktor of
Rhode Island, Inc.
Middletown, RI

Southwest Marine, Inc.
San Diego, CA

Tampa Shipyards, Inc.
Tampa, FL

Textron Marine Systems
New Orleans, LA

Todd Shipyards Corporation
Seattle, WA

ALLIED INDUSTRIES MEMBERS

ALCOA/TRE
Santa Ana, CA

Bird-Johnson Company
Walpole, MA

Centrico, Inc.
Northvale, NJ

Colt Industries, Inc.
Washington, DC

Combustion Engineering, Inc.
Windsor, CT

Dresser Pump Division
Dresser Industries, Inc.
Harrison, NJ

Eaton Corporation
Cutler-Hammer Products
Baltimore, MD

General Electric Company
Washington, DC

Hopeman Brothers, Inc.
Waynesboro, VA

IMO Delaval, Inc.
Lawrenceville, NJ

Jamestown Metal Marine
Sales, Inc.
Boca Raton, FL

Jered Brown Brothers, Inc.
Troy, MI

Lake Shore, Inc.
Iron Mountain, MI

Raytheon Service Company
Arlington, VA

Sperry Marine, Inc.
Charlottesville, VA

Westinghouse Electric Corporation
Sunnyvale, CA

York International Corporation
York, PA

AFFILIATE MEMBERS

The Bingham Group
Washington, DC

Colton & Company
Washington, DC

PacOrd, Inc.
National City, CA

Poten & Partners, Inc.
New York, NY

Seacoast Electric Supply Corporation
Rye, NY

NAVAL ARCHITECT MEMBERS

JJH Inc.
Cherry Hill, NJ

John J. McMullen Associates, Inc.
New York, NY

M. Rosenblatt & Son, Inc.
New York, NY

ASSOCIATION MEMBERS

New York and New Jersey Dry Dock Association
Brooklyn, NY

South Tidewater Association of Ship Repairers, Inc.
Chesapeake, VA

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